BURNS
DOANE
SWECKER &
MATHIS LLP

ALEXANDRIA, VIRGINIA
REDWOOD SHORES, CALIFORNIA
DURHAM, NORTH CAROLINA

REPLY TO:
SUITE 700
333 TWIN DOLPHIN DRIVE
REDWOOD SHORES, CA 94065

TELEPHONE: +1-650-622-2300
FACSIMILE: +1-650-622-2499

DATE: August 18, 2003

RECIPIENT INFORMATION		SENDER INFORMATION	
To:	**Examiner Q. Nguyen**	From:	**Ping Hwung**
Voice Tel. No.:	**(703) 308-8339**	Voice Tel. No.:	**650-622-2300**
Fax Tel. No.:	**(703) 746-5312**	Sent By:	**Margaret M. Hasson**
Your Ref.:	**USSN 09/265,191**	Our Ref.:	**028723-306**
		Total Pages (Incl. This Cover Page):	**28**

RE: Amendment and Reply as filed July 11, 2003

MESSAGE:

Dear Examiner Nguyen,

Attached please find a Communication forwarding a copy of the Amendment and Reply, as well as accompanying documents, that we hand carried to the 7th Floor Receptionist on July 11, 2003 as indicated on the postcard receipt. Please do not hesitate to call me if you have any questions or need further information.

Thank you. We look forward to an early declaration of interference.

Ping

Patent
Attorney Docket No. 028723-306

Certificate of Facsimile Transmission

I hereby certify that this correspondence is being transmitted to the United States Patent and Trademark Office to the attention of Examiner Q. Nguyen, facsimile number (703) 746-5312 on August 18, 2003.

/Margaret M. Hasson/ Aug. 18, 2003
Margaret M. Hasson Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Dennis CARSON et al.

Serial No.: 09/265,191

Filing Date: March 10, 1999

For: IMMUNE STIMULATORY COMPOSITIONS AND METHODS FOR USE OF SAME TO ENHANCE THE IMMUNE RESPONSE OF A HOST TO AN ANTIGEN (as amended)

Examiner: Q. Nguyen

Group Art Unit: 1636

Confirmation No.: 4241

COMMUNICATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Submitted herewith is a copy of the Amendment and Reply to Office Action and accompanying documents filed on July 11, 2003, in response to the Office Action mailed February 26, 2003, for the above-referenced application. Also enclosed is a copy of the acknowledgement postcard showing receipt of these documents by the 7th floor receptionist of Technology Center 1600.

If the Examiner has any questions about this filing, he is invited to contact the undersigned at (703) 836-6620 or Ping Hwang at (650) 622-2340.

Respectfully submitted,

Dated: August 18, 2003

By: for Reg. No. 44,164
R. Danny Huntington
Registration No. 27,903
Attorney for Applicants

BURNS, DOANE, SWECKER & MATHIS LLP
P.O. Box 1404
Alexandria, Virginia 22313-1404
Telephone: (703) 836-6620
Facsimile: (703) 836-2021

Inventor: Carson et al. Appln. No. 09/265,191

Docket No.: 028723-306 Work. Atty. PFH/lk Date: July 11, 2003

The following was/were received in the U.S. Patent and Trademark Office on the date stamped hereon:

03 JUL 11 AM 7:32

- ☒ Amendment or Response
- ☐ Preliminary Amendment
- ☒ Reply Transmittal Letter
- ☒ Petition for 2 Month Extension of Time
- ☐ Submission of Formal Drawings w/_ sheet(s) of drawings (Fig(s). 1-_)
- ☐ Request for Approval of Drawing Changes w/_ sheet(s) of red ink drawings
- ☐ Notice of Appeal
- ☐ Brief for Appellant
- ☐ Request for Oral Hearing
- ☐ Reply Brief
- ☐ Response to Restriction Requirement or Election of Species
- ☐ Terminal Disclaimer
- ☐ Certificate Under 37 C.F.R. § 3.73(b)
- ☐ Transmittal Letter for Missing Parts of Application
- ☐ Executed Declaration/Power of Attorney
- ☐ Assignment/Assignment Recordation Form Cover Sheet (PTO-1595)
- ☐ Claim for Convention Priority w/_ certified copy(s)
- ☐ Information Disclosure Statement w/_ document(s)
- ☐ Information Disclosure Citation (PTO-1449)
- ☐ Information Disclosure Statement Transmittal Letter
- ☐ Request for Corrected Notice of Recordation of Assignment w/copy of Notice
- ☐ Request for Continued Examination
- ☒ Check for $ 205.00 is enclosed
- ☐ Check for $__ is enclosed
- ☐ Charge $__ to Deposit Account
- ☐ Issue Fee Transmittal
- ☐ Payment of Issue Fee and Authorization to charge Deposit Account
- ☐ Request for Refund
- ☐ Status Inquiry
- ☐ Request for Corrected Filing Receipt w/copy of Official Filing Receipt
- ☐
- ☐
- ☐

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To VA via pouch on July 10, 2003 for Hand Carry to Examiner Nguyen

Crystal 4th floor

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Patent
Attorney's Docket No. 028723-306

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#42

In re Patent Application of

Dennis CARSON et al.

Application No.: 09/265,191

Filed: March 10, 1999

For: IMMUNE STIMULATORY COMPOSITIONS AND METHODS FOR USE OF SAME TO ENHANCE THE IMMUNE RESPONSE OF A HOST TO AN ANTIGEN

Group Art Unit: 1636

Examiner: Q. Nguyen

Confirmation No.: 4241

PETITION FOR EXTENSION OF TIME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The following extension of time is requested to respond to the Office Action mailed on February 26, 2003 :

		FEE
[ ] one month to	_____	[ ] $55.00 (2251) [ ] $110.00 (1251)
[X] two months to	July 28, 2003	[X] $205.00 (2252) [ ] $410.00 (1252)
[ ] three months to	_____	[ ] $465.00 (2253) [ ] $930.00 (1253)
[ ] four months to	_____	[ ] $725.00 (2254) [ ] $1,450.00 (1254)
[ ] five months to	_____	[ ] $985.00 (2255) [ ] $1,970.00 (1255)

[ ] The shortened statutory period has been reset by an Advisory Action dated _____.

[X] An extension fee in the amount of $ 205.00 is enclosed.

[ ] Charge $_____ to Deposit Account No. 02-4800.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: July 10, 2003

By: _____ Reg. No. 44,164
for R. Danny Huntington
Registration No. 27,903

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

((05/03))

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Patent

Attorney's Docket No. 028723-306

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	
	)	
Dennis CARSON et al.	)	Group Art Unit: 1636
	)	
Application No.: 09/265,191	)	Examiner: Q. Nguyen
	)	
Filed: March 10, 1999	)	Confirmation No.: 4241
	)	
For: IMMUNE STIMULATORY COMPOSITIONS AND METHODS FOR USE OF SAME TO ENHANCE THE IMMUNE RESPONSE OF A HOST TO AN ANTIGEN	)	

AMENDMENT/REPLY TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is a reply for the above-identified patent application.

[X] A Petition for Extension of Time is also enclosed.

[ ] A Terminal Disclaimer and the [ ] [ ] fee due under 37 C.F.R. § 1.20(d) are also enclosed.

[ ] Also enclosed is/are _____.

[X] Small entity status is hereby claimed.

[ ] Applicant(s) requests continued examination under 37 C.F.R. § 1.114 and enclose the [ ] [ ] fee due under 37 C.F.R. § 1.17(e).

[ ] Applicant(s) requests that any previously unentered after final amendments not be entered. Continued examination is requested based on the enclosed documents identified above.

[ ] Applicant(s) previously submitted __, on __, for which continued examination is requested.

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[ ] Applicant(s) requests suspension of action by the Office until at least ___, which does not exceed three months from the filing of this RCE, in accordance with 37 C.F.R. § 1.103(c). The required fee under 37 C.F.R. § 1.17(i) is enclosed.

[ ] A Request for Entry and Consideration of Submission under 37 C.F.R. § 1.129(a) (1809/2809) is also enclosed.

[X] No additional claim fee is required.

[ ] An additional claim fee is required, and is calculated as shown below:

AMENDED CLAIMS					
	No. Of Claims	Highest No. Of Claims Previously Paid For	Extra Claims	Rate	Add'l Fee
Total Claims		MINUS =		× =	
Independent Claims		MINUS =		× =	
If Amendment adds multiple dependent claims, add					
Total Claim Amendment Fee					
If small entity status is claimed, subtract 50% of Total Claim Amendment Fee					
TOTAL ADDITIONAL CLAIM FEE DUE FOR THIS AMENDMENT					

[ ] A total fee in the amount of $ _____ is enclosed.

[ ] Charge $_____to Deposit Account No. 02-4800.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. . This paper is submitted in duplicate.

Respectfully submitted,

Date: July 10, 2003

By: _____ Reg. No. 44,164
for R. Danny Huntington
Registration No. 27,903

#43/F
Zita
8/19/03

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CERTIFICATE OF HAND DELIVERY

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_____

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Dennis CARSON et al.

Serial No.: 09/265,191

Filing Date: March 10, 1999

For: IMMUNE STIMULATORY COMPOSITIONS AND METHODS FOR USE OF SAME TO ENHANCE THE IMMUNE RESPONSE OF A HOST TO AN ANTIGEN (AS AMENDED)

Examiner: Q. Nguyen

Group Art Unit: 1636

Confirmation No.: 4241

AMENDMENT AND REPLY TO OFFICE ACTION

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This Amendment and Reply to Office Action is submitted in response to the Office Action mailed February 26, 2003 ("the Office Action") for the above-referenced application. The Office Action sets a three (3) month period for response. A petition for a two-month extension accompanies this response, which is being submitted before the current due date of July 28, 2003 (July 26 and 27, 2003 being a Saturday and a Sunday, respectively).

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SUMMARY OF AMENDMENTS

In the Claims:

Claims 202-206 are pending prior the present amendments.

Claims 202-204 and 206 are being canceled without prejudice or disclaimer to future prosecution of the canceled subject matter.

Claim 205 is being amended.

After the amendments, claim 205 will be pending as shown in the claim list starting from the next page.

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CLAIM LIST

1.-204. Canceled.

205. (Currently amended) A method for suppressing an allergic response to an antigen in a mammal susceptible to an allergic reaction to said antigen which stimulates production of allergy-associated IgE antibodies in the mammal, comprising parenterally co-administering ~~administering~~ to the mammal

(a) an effective amount of an immunostimulatory nucleic acid in a plasmid, said immunostimulatory nucleic acid comprising 5'CG3', wherein C is unmethylated, and

(b) an effective amount of the antigen provided as the antigen *per se* or as a polynucleotide encoding the antigen.

206. Canceled.

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REMARKS

Status of the Present Application

The present application relates to the use of CG-containing immunostimulatory nucleic acid to modulate immune responses to antigens. Claim 205 is currently pending, and the claim defines the same invention as the claims of U.S. Patent No. 6,207,646 ("the Krieg '646 patent").

Claim 205 of the present application relates to a method for suppressing an allergic response to an antigen in a mammal by administering both an immunostimulatory nucleic acid and the antigen to the mammal. The subject matter of claim 205 is substantially the same as that of claim 3 of the Krieg '646 patent, which relates to a method for desensitizing a subject against an allergic reaction by administering to the subject a CG-containing immunostimulatory nucleic acid and the allergen.

In view of the presence of interfering subject matter, Applicants submitted a request for interference under 37 C.F.R. §1.607 on October 31, 2001, and a revised one on May 9, 2002, both of which contain a detailed explanation of the interfering claims. As set forth below, Applicants submit that claim 205 is allowable. Accordingly, Applicants respectfully request that an interference be declared.

Applicants further request expedited examination of the present application. Examination of an application in which applicants seek an interference with a patent shall be conducted with special dispatch under 37 C.F.R. §1.607 and MPEP §2307. Therefore, expedited examination, in which the present application is advanced out of turn for examination, is respectfully requested under MPEP §708.01(F).

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Interview

Applicants wish to thank Examiners Q. Nguyen and D. Guzo, and Interference Practice Specialist A. Nelson, for extending the courtesy of an interview to Applicants' representatives and providing helpful suggestions on June 26, 2003. The amendments and remarks herein reflect discussion and suggestions made by the Examiners for the purpose of declaration of an interference. Since all the points raised in the Office Action and the Examiners' concerns have been addressed, Applicants respectfully request that an interference be declared.

Claim Amendments

Claims 202, 203, 204 and 206 have been canceled without prejudice or disclaimer.

Claim 205 has been amended to recite "co-administering" an immunostimulatory nucleic acid and an antigen, for which support can be found, for example, in Example VII (pages 50-52 of the specification).

No new matter has been introduced by these amendments. The Examiner is hereby requested to enter the amendments.

Applicants submit that all claim amendments presented herein or previously are made solely in the interest of expediting declaration of an interference and should not be interpreted as acquiescence to any rejections or ground of unpatentability. Applicants reserve the right to file at least one continuing application to pursue any subject matter that is canceled or removed from prosecution due to the amendments.

Priority (Pages 3-5 of the Office Action)

The Office Action reiterates the issue of priority that was stated in the previous Office Actions dated March 15, 2002 and July 29, 2002, respectively. Applicants explained in detail, in

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the Amendment and Reply filed on May 9, 2002, the reasons under which claims 202-203 should be afforded the priority date of August 26, 1993. However, since claims 202 and 203 have been canceled, this issue is now moot.

Rejections under 35 U.S.C. §112, second paragraph (Pages 5-7 of the Office Action)

Claim 204 stands rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Since claim 204 has been canceled, this rejection is now moot. Therefore, withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. §102 and 35 U.S.C. §103 (Pages 7-13 of the Office Action)

Claim 202 stands rejected under 35 U.S.C. §102(e) in view of Davis (U.S. Pat. No. 5,780,448, "Davis") as evidenced by Krieg et al. (U.S. Pat. No. 6,194,388, "Krieg"); under 35 U.S.C. §103(a) as allegedly being unpatentable over Krieg in view of Davis; and under 35 U.S.C. §103(a) as allegedly being unpatentable over Krieg in view of Applicants' admission (Amendment C filed October 31, 2001 in paper No. 28, page 8, second last paragraph and page 9, second paragraph). Since claim 202 has been canceled, these rejections are now moot.

Accordingly, withdrawal of these rejections is respectfully requested.

Rejections under 35 U.S.C. §112, first paragraph (Pages 14-25 of the Office Action)

Claim 205

Claim 205 stands rejected under 35 U.S.C. §112, first paragraph, as allegedly not being enabled. However, the Office Action states that the specification is enabling for:

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A method for suppressing an allergic response to an antigen in a mammal susceptible to an allergic reaction to said antigen which stimulates production of allergy-associated IgE antibodies in the mammal, comprising parenterally co-administering to the mammal (a) an effective amount of an immunostimulatory nucleic acid in a plasmid, said immunostimulatory nucleic acid comprising 5'CG3', wherein C is unmethylated, and (b) an effective amount of the antigen provided as the antigen *per se* or as a polynucleotide encoding the antigen. (page 14, lines 11-17 of the Office Action; original emphasis)

Claim 205 has been amended to recite "co-administering". Thus, claim 205 is directed to the method recited above, which is deemed enabled by the Office Action. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 204

Claim 204 stands rejected under 35 U.S.C. §112, first paragraph, as allegedly not being enabled. This rejection is now moot in view of cancellation of claim 204. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 203 and 206

Claims 203 and 206 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly not being enabled. Since claims 203 and 206 have been canceled, this rejection is now moot. Therefore, withdrawal of this rejection is respectfully requested.

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Request for Declaration of Interference

Pursuant to 37 C.F.R. §1.606 and MPEP §2307.02, an interference should be declared if the application contains at least one allowable claim. Since the currently pending claim, claim 205, is allowable, declaration of an interference is appropriate. All the requirements for requesting an interference with a patent have been satisfied in Applicants' requests for interference under 37 C.F.R. §1.607 submitted on October 31, 2001 and May 9, 2002. However, for the convenience of the Examiner, a brief summary of these requirements is included below.

1. Identification of the patent:

   U.S. Patent No. 6,207,646 ("the Krieg '646 patent").

2. Presentation of a proposed count:

   The proposed count, set forth in Appendix A, would be claim 205 of the present application or claim 3 of the Krieg '646 patent[1].

3. Identification of at least one claim in the patent corresponding to the proposed count:

[1] Although claim 205 has been amended to recite "co-administering", it defines the same invention as claim 3 of the Krieg '646 patent since the Krieg '646 patent provides guidance only for co-administration of immunostimulatory nucleic acids and allergens. The Krieg '646 patent provides only a single example of *in vivo* administration of immunostimulatory nucleic acids and antigen, which is found in Example 12 (columns 42-43). Example 12 discusses the effect of immunostimulatory nucleic acids administered together with *Schistosoma mansoni* eggs on inflammatory cellular infiltrate and eosinophilia in a murine model of asthma. Thus, mice were sensitized to Schistosoma egg antigen (SEA) by injection with *S. mansoni* eggs, or were injected with *S. mansoni* eggs together with immunostimulatory nucleic acids. These mice were subsequently exposed to soluble SEA. There is no supporting evidence elsewhere in the Krieg '646 patent for *in vivo* administration of immunostimulatory nucleic acids and allergen in any manner other than co-administration. Therefore, claim 205 of the present application, as amended, defines the same invention as claim 3 of the Krieg '646 patent, and an interference is properly requested.

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For the reasons set forth in Appendix B, claims 3, 11, 12, 17, 21, 25, 27, 37 and 38 of the Krieg '646 patent correspond to the proposed count.

4. Identification of at least one claim in the application corresponding to the proposed count:

Claim 205, being an alternative of the proposed count, corresponds exactly to the proposed count.

5. Application of the terms of the application claim:

Appendix C sets forth the support for claim 205.

6. The requirement under 35 U.S.C. 135(b):

Claim 204 was added to the present application on October 31, 2001, which was within a year of the issue date of the Krieg '646 patent, March 27, 2001.

Accordingly, all the requirements have been satisfied. Furthermore, claim 205 of the present application is entitled to the benefit of the priority date of January 30, 1996, while the Krieg '646 patent claims only date back to October 30, 1996[2]. Therefore, Applicants respectfully request that an interference be declared naming Applicants as the senior party.

[2] Although the application leading to the Krieg '646 patent is listed as a continuation of U.S. Application No. 08/386,063, filed February 7, 1995 ("the '063 application"), the disclosure of the Krieg '646 patent is significantly different from that of the '063 application. In particular, there is no disclosure of the use of CpG sequences in allergic reactions in the '063 application (see attached Appendix B for a more comprehensive discussion on this point). Therefore, the Krieg '646 patent claims at issue are only entitled to the filing date of October 30, 1996.

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CONCLUSION

In view of the above amendments and remarks, Applicants submit that the pending claim of this application is patentable. Accordingly, Applicants respectfully request that an interference be declared employing the proposed count set forth in Appendix A, and that Applicants be named senior party.

If the Examiner feels that a telephone interview would serve to facilitate resolution of any outstanding issues, he is encouraged to contact the undersigned at the telephone number below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 02-4800**, referencing docket no. 028723-306. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: July 10, 2003

By: _____ Reg. No. 44,164
for R. Danny Huntington
Registration No. 27,903
Attorney for Applicants

BURNS, DOANE, SWECKER & MATHIS LLP
P.O. Box 1404
Alexandria, Virginia 22313-1404
Telephone: (703) 836-6620
Facsimile: (703) 836-2021

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APPENDIX A

PROPOSED COUNT

A method for suppressing an allergic response to an antigen in a mammal susceptible to an allergic reaction to said antigen which stimulates production of allergy-associated IgE antibodies in the mammal, comprising parenterally co-administering to the mammal (a) an effective amount of an immunostimulatory nucleic acid in a plasmid, said immunostimulatory nucleic acid comprising 5'CG3', wherein C is unmethylated, and (b) an effective amount of the antigen provided as the antigen *per se* or as a polynucleotide encoding the antigen

OR

A method for desensitizing a subject against the occurrence of an allergic reaction in response to contact with a particular allergen, comprising administering to the subject an effective amount of an immunostimulatory nucleic acid, comprising:

$5'X_1CGX_2 3'$

wherein the immunostimulatory nucleic acid includes at least 8 nucleotides and wherein C is unmethylated and wherein X_1 and X_2 are nucleotides and an effective amount of the allergen.

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APPENDIX B

KRIEG '646 PATENT CLAIMS CORRESPONDING TO THE PROPOSED COUNT

Applicants identify claims 3, 11, 12, 17, 21, 25, 27, 37 and 38 of the Krieg '646 patent as corresponding to the proposed count. Krieg '646 patent Claim 3 is the second alternative of the proposed count. All of the dependent claims (11, 12, 17, 21, 25, 27, 37 and 38) are directed to compositions containing an allergen. As a preliminary matter, claims 11, 17, 21, 25 and 37 recite Markush groups which recite, inter alia, "allergen" as a species of antigen, and to the extent "allergen" is contained in the Markush group these claims correspond to the proposed count, as discussed more fully below.

Dependent claim 11 is directed to a composition comprising a plasmid containing a immunostimulatory CG-containing polynucleotide sequence and an antigen, wherein the antigen is an allergen (a species of the recited Markush group). Dependent claim 12 is also directed to this plasmid composition with an allergen. Dependent claim 17 is directed to a composition comprising a CG-containing immunostimulatory nucleic acid of 8 to 100 nucleotides in length and an antigen, wherein the antigen is an allergen (a species of the recited Markush group). Dependent claim 21 is directed to a composition comprising a CG-containing immunostimulatory nucleic acid of at least 8 nucleotides in length and an antigen, wherein the antigen is an allergen (a species of the recited Markush group). Dependent claim 25 is directed to a composition comprising a CG-containing immunostimulatory nucleic acid of 8 to 40 nucleotides in length and an antigen, wherein the antigen is an allergen (a species of the recited Markush group). Dependent claim 37 is directed to a composition comprising a CG-containing immunostimulatory nucleic acid of at least 8 nucleotides in length (wherein at least one nucleotide has a phosphate backbone modification) and an antigen, wherein the antigen is an allergen (a species of the recited Markush group). Dependent claim 38 recites that the antigen is an allergen.

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With respect to all of the above composition claims, an allergen-containing composition is obvious in view of a method for desensitization or suppressing an allergic response to an antigen using a CG-containing immunostimulatory sequence and an antigen which causes an allergic response, or an allergen (which may be in the form of the antigen or antigen encoded by a polynucleotide). One must use such a composition in practicing the method of the proposed count. As discussed above, oligomeric forms of CG-containing immunostimulatory polynucleotides are obvious in view of a functionally corresponding plasmid (*i.e.*, a plasmid containing the same functional sequence). With respect to claim 21, a plasmid anticipates a polynucleotide of at least 8 nucleotides in length.

"Allergen" is a patentably distinct species with respect to the genus "antigen". As discussed above, an allergen is a type of antigen which elicits an unwanted, inappropriate immune response which is accompanied by production of allergy-associated IgE antibodies. Without the understanding that CG-containing immunostimulatory polynucleotides effect a Th1 shift, and thus reduce IgE production, one skilled in the art would not consider it obvious to combine an allergen with these immunostimulatory polynucleotides. The Krieg '646 patent specification reflects this reasoning. As discussed above, the Krieg '646 patent specification states that, based on the ability of the claimed immunostimulatory CG-containing polynucleotides to effect a Th1 shift (*i.e.*, shifting the immune response from a Th2 response toward a Th1 response), the immunostimulatory polynucleotides could be used to treat or prevent an allergy. Col. 34, lines 18-26. Neither of Krieg's earlier patent applications (to which priority is claimed) contain any disclosure of the Th1 shift or of using allergens in conjunction with CG-containing immunostimulatory polynucleotides. Instead, these earlier-filed cases only generally describe using antigen, without ever referring to using allergens. Nor does either of Krieg's earlier-filed cases make any reference to using CG-containing immunostimulatory polynucleotides in the allergy context. Thus, in terms of compositions, an allergen-based composition is a non-obvious species with respect to an antigen-based composition.

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Dependent claim 27 is directed to a method of inducing an antigen-specific immune response comprising administering a vaccine including an antigen and an immunostimulatory nucleic acid sequence of any of claims 6, 14, 18 or 22, wherein the antigen is an allergen (a species of the recited Markush group). Eliciting an antigen-specific immune response by combining the claimed immunostimulatory nucleic acid sequence(s) with an allergen is obvious in view of the proposed count, in which an allergen (*i.e.*, antigen which stimulates allergy-associated IgE production) combined with immunostimulatory sequence is administered to a subject.

Applicants submit that the above claims do not define separate patentable inventions within the meaning of 37 C.F.R. § 1.601(n).

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APPENDIX C

EXEMPLARY SUPPORT FOR CLAIM 205

Disclosures:

Serial No.	Filing Date	Application family
09/265,191	3/10/99	CON of 08/593,554
08/593,554	1/30/96	CIP of 08/446,691

As the instant application is a continuation of the '554 application, exemplary support from the '554 is not detailed below. A pagination difference between the '191 and the '554 applications results in the page and line citations in the two applications being slightly different. However, the two applications contain the same content, and thus claim 205 is entitled to the benefit of the filing date of the '554 application, January 30, 1996.

The identified support is merely exemplary, and is not meant to be exhaustive. Applicants reserve the right to cite additional support for this claim at a later time, if necessary.

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Claim Limitation	Exemplary Support in Applicants' Disclosure 09/265,191
A method for suppressing an allergic response to an antigen...	Page 4, lines 9-11: "The invention also includes naked gene expression vectors for use in manipulating cellular immune responses toward the TH1 compartment." Page 49, lines 9-10: "TH1 responses are to be of particular importance in the treatment of allergies and AIDS." Page 5, lines 13-15: "The vectors are also of particular use in stimulating the TH1 compartment in preference to the TH2 compartment, thus suppressing IgE production in response to expressed antigen [from the vector]." Page 34, lines 20-22: "In this embodiment, the TH1 component of the T lymphocyte immune response is generally stimulated in preference to the antigenic stimulation of TH2 lymphocytes, which mediate production of IgE antibody." Page 36, lines 1-4: "Thus, administration of naked gene expression vectors which encode antigens (or known immunostimulatory fragments of antigens) according to the invention not only suppresses IgE antibody production, but also does so from the outset of therapy, thus avoiding the risk of anaphylaxis posed by conventional immunotherapy protocols." Page 36, lines 13-17: "However, as demonstrated in Example VII, IgE antibody levels produced in the protein injected mice are substantially greater during the initial phase of treatment than are produced at any stage of treatment of mice injected with a naked gene expression vector (pCMV-LacZ) that operatively encodes the same antigen and includes an immunostimulatory polynucleotide of the invention (SEQ ID NO:1)." Page 50, line 6, to page 52, line 9: Example VII

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Claim Limitation	Exemplary Support in Applicants' Disclosure 09/265,191
...in a mammal susceptible to an allergic reaction to said antigen which stimulates production of allergy-associated IgE antibodies in the mammal, ...	Page 32, lines 22-23: "The host may be any vertebrate, but will preferably be a mammal. Page 50, line 6, to page 52, line 9: Example VII: Administration of a plasmid of this invention suppressed antigen-specific IgE production (i.e., an allergic response) upon subsequent challenge with the antigen. Control animals in the experiment developed high levels of antigen-specific IgE. Page 36, lines 1-4: "Thus, administration of naked gene expression vectors which encode antigens (or known immunostimulatory fragments of antigens) according to the invention not only suppresses IgE antibody production, but also does so from the outset of therapy, thus avoiding the risk of anaphylaxis posed by conventional immunotherapy protocols." Page 36, lines 13-17: "However, as demonstrated in Example VII, IgE antibody levels produced in the protein injected mice are substantially greater during the initial phase of treatment than are produced at any stage of treatment of mice injected with a naked gene expression vector (pCMV-LacZ) that operatively encodes the same antigen and includes an immunostimulatory polynucleotide of the invention (SEQ ID NO:1)." Page 34, lines 20-22: "In this embodiment, the TH1 component of the T lymphocyte immune response is generally stimulated in preference to the antigenic stimulation of TH2 lymphocytes, which mediate production of IgE antibody." Page 49, lines 6-8: "TH2 responses include the allergy-associated IgE antibody class; soluble protein antigens tend to stimulate relatively strong TH2 responses."

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Claim Limitation	Exemplary Support in Applicants' Disclosure 09/265,191
...comprising parenterally co-administering to the mammal (a) an effective amount of an immunostimulatory nucleic acid in a plasmid, ...	Page 30, lines 6-9: "Parenteral vehicles include... Intravenous vehicles include..." See also page 33, lines 13-14 and page 40, lines 1-9. Page 49, line 1, to page 52, line 9: Examples VI & VII: Intradermal and intramuscular administration of antigen-encoding plasmids.
...said immunostimulatory nucleic acid comprising 5'CG3', wherein C is unmethylated, ...	Page 5, lines 16-18: "The naked gene expression vectors of the invention include one or more non-coding, immunostimulatory polynucleotides which include at least one dinucleotide sequence consisting of adjacent, unmethylated cytosine-guanine (CG) nucleotides."
...and (b) an effective amount of the antigen provided as the antigen *per se* or as a polynucleotide encoding the antigen.	Page 4, lines 9-11: "The invention also includes naked gene expression vectors for use in manipulating cellular immuno responses toward the TH1 compartment." Page 5, lines 13-15: "The vectors are also of particular use in stimulating the TH1 compartment in preference to the TH2 compartment, thus suppressing IgE production in response to expressed antigen [from the vector]." Page 36, lines 22-24: "Moreover, the protection against IgE production afforded to the pCMV-LacZ challenged mice continues despite subsequent challenge with the plasmid or protein, even when combined with adjuvant (Examples IV, V and VII)." Page 50, line 6, to page 52, line 9: Example VII: Suppression of IgE antibody response to antigen by immunization with antigen-encoding polynucleotides.